

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	17478	oligosaccharide\$1 or lacto-n-neotetraose or LNnT or polylactosamine	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 14:09
L2	3601	1 near8 (synthes\$8 or produc\$8)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:14
L3	601	2 same (coli or bacter\$ or microb\$10 or microorganism\$)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:13
L4	26	3 same vivo	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 14:59
L5	221	2 near5 (coli or bacter\$ or microb\$10 or microorganism\$)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:15
L6	2513	1 near3 (synthes\$8 or produc\$8)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:15
L7	151	6 near5 (coli or bacter\$ or microb\$10 or microorganism\$)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:16
L8	136	3 and (glycosyltransferase\$1 or glycosyl transferase\$1)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:17
L9	27	7 and (glycosyltransferase\$1 or glycosyl transferase\$1)	US-PGPUB; USPAT	ADJ	OFF	2005/04/06 15:17

FILE 'BIOSIS'
23136 OLIGOSACCHARIDE#
2953 LACTO
855592 N
105 NEOTETRAOSE
102 LACTO N NEOTETRAOSE
(LACTO (W) N (W) NEOTETRAOSE)
17 LNNT
185 POLYLACTOSAMINE
L5 23308 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

FILE 'EMBASE'
17894 OLIGOSACCHARIDE#
721 "LACTO"
689143 "N"
102 "NEOTETRAOSE"
96 LACTO N NEOTETRAOSE
("LACTO" (W) "N" (W) "NEOTETRAOSE")
15 LNNT
160 POLYLACTOSAMINE
L6 18027 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

FILE 'HCAPLUS'
48931 OLIGOSACCHARIDE#
1336 LACTO
2786323 N
181 NEOTETRAOSE
175 LACTO N NEOTETRAOSE
(LACTO (W) N (W) NEOTETRAOSE)
33 LNNT
207 POLYLACTOSAMINE
L7 49094 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

FILE 'NTIS'
156 OLIGOSACCHARIDE#
5 LACTO
69322 N
1 NEOTETRAOSE
1 LACTO N NEOTETRAOSE
(LACTO (W) N (W) NEOTETRAOSE)
0 LNNT
1 POLYLACTOSAMINE
L8 158 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

FILE 'ESBIOBASE'
7730 OLIGOSACCHARIDE#
231 LACTO
299222 N
63 NEOTETRAOSE
60 LACTO N NEOTETRAOSE
(LACTO (W) N (W) NEOTETRAOSE)
12 LNNT
98 POLYLACTOSAMINE
L9 7822 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

FILE 'BIOTECHNO'
9517 OLIGOSACCHARIDE#
275 LACTO
184936 N

53 NEOTETRAOSE
52 LACTO N NEOTETRAOSE
(LACTO (W) N (W) NEOTETRAOSE)
8 LNNT
113 POLYLACTOSAMINE
L10 9603 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

FILE 'WPIDS'
5998 OLIGOSACCHARIDE#
415 LACTO
671221 N
15 NEOTETRAOSE
14 LACTO N NEOTETRAOSE
(LACTO (W) N (W) NEOTETRAOSE)
11 LNNT
14 POLYLACTOSAMINE
L11 6008 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

TOTAL FOR ALL FILES
L12 175497 OLIGOSACCHARIDE# OR LACTO N NEOTETRAOSE OR LNNT OR POLYLACTOSAMI
NE

=> s 112(5a) (synthes? or produc?)
FILE 'MEDLINE'
475770 SYNTHESES?
1221601 PRODUC?
L13 1818 L1 (5A) (SYNTHESES? OR PRODUC?)

FILE 'SCISEARCH'
843415 SYNTHESES?
1691626 PRODUC?
L14 3226 L2 (5A) (SYNTHESES? OR PRODUC?)

FILE 'LIFESCI'
135983 SYNTHESES?
488487 PRODUC?
L15 757 L3 (5A) (SYNTHESES? OR PRODUC?)

FILE 'BIOTECHDS'
31207 SYNTHESES?
208643 PRODUC?
L16 1180 L4 (5A) (SYNTHESES? OR PRODUC?)

FILE 'BIOSIS'
625240 SYNTHESES?
1625530 PRODUC?
L17 2824 L5 (5A) (SYNTHESES? OR PRODUC?)

FILE 'EMBASE'
581651 SYNTHESES?
1170204 PRODUC?
L18 1755 L6 (5A) (SYNTHESES? OR PRODUC?)

FILE 'HCAPLUS'
1438196 SYNTHESES?
4013799 PRODUC?
865295 PRODN
4435297 PRODUC?
(PRODUC? OR PRODN)
L19 6900 L7 (5A) (SYNTHESES? OR PRODUC?)

FILE 'NTIS'

42005 SYNTHES?
364086 PRODUC?
L20 21 L8 (5A) (SYNTHESES? OR PRODUC?)

FILE 'ESBIOBASE'
180134 SYNTHES?
525757 PRODUC?
L21 1012 L9 (5A) (SYNTHESES? OR PRODUC?)

FILE 'BIOTECHNO'
170699 SYNTHES?
394590 PRODUC?
L22 1016 L10 (5A) (SYNTHESES? OR PRODUC?)

FILE 'WPIDS'
122861 SYNTHES?
2211377 PRODUC?
L23 795 L11 (5A) (SYNTHESES? OR PRODUC?)

TOTAL FOR ALL FILES
L24 21304 L12 (5A) (SYNTHESES? OR PRODUC?)

=> s 124 (5a) (coli or bacter? or microb? or microorganism?)

FILE 'MEDLINE'
239516 COLI
690022 BACTER?
499797 MICROB?
31537 MICROORGANISM?
L25 46 L13 (5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'SCISEARCH'
214862 COLI
345800 BACTER?
126320 MICROB?
41208 MICROORGANISM?
L26 82 L14 (5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'LIFESCI'
93860 COLI
182840 BACTER?
50291 MICROB?
37824 MICROORGANISM?
L27 33 L15 (5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'BIOTECHDS'
43223 COLI
115608 BACTER?
19400 MICROB?
25392 MICROORGANISM?
L28 66 L16 (5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'BIOSIS'
264082 COLI
1288092 BACTER?
451443 MICROB?
2600038 MICROORGANISM?
L29 70 L17 (5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'EMBASE'
169768 COLI
454034 BACTER?
80206 MICROB?
125178 MICROORGANISM?
L30 44 L18 (5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'HCAPLUS'
 254762 COLI
 556360 BACTER?
 389563 MICROB?
 146426 MICROORGANISM?
L31 186 L19(5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'NTIS'
 2770 COLI
 18462 BACTER?
 12601 MICROB?
 8963 MICROORGANISM?
L32 1 L20(5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'ESBIOBASE'
 62857 COLI
 175566 BACTER?
 225402 MICROB?
 14400 MICROORGANISM?
L33 40 L21(5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'BIOTECHNO'
 94549 COLI
 191870 BACTER?
 38419 MICROB?
 18193 MICROORGANISM?
L34 36 L22(5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

FILE 'WPIDS'
 17766 COLI
 101990 BACTER?
 45093 MICROB?
 46814 MICROORGANISM?
L35 48 L23(5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

TOTAL FOR ALL FILES
L36 652 L24(5A) (COLI OR BACTER? OR MICROB? OR MICROORGANISM?)

=> s 136 not 2001-2005/py
FILE 'MEDLINE'
 2351352 2001-2005/PY
L37 35 L25 NOT 2001-2005/PY

FILE 'SCISEARCH'
 4365164 2001-2005/PY
L38 53 L26 NOT 2001-2005/PY

FILE 'LIFESCI'
 413541 2001-2005/PY
L39 25 L27 NOT 2001-2005/PY

FILE 'BIOTECHDS'
 96059 2001-2005/PY
L40 46 L28 NOT 2001-2005/PY

FILE 'BIOSIS'
 2125673 2001-2005/PY
L41 47 L29 NOT 2001-2005/PY

FILE 'EMBASE'
 2010599 2001-2005/PY
L42 35 L30 NOT 2001-2005/PY

FILE 'HCAPLUS'
4430834 2001-2005/PY
L43 118 L31 NOT 2001-2005/PY

FILE 'NTIS'
62316 2001-2005/PY
L44 1 L32 NOT 2001-2005/PY

FILE 'ESBIOBASE'
1234639 2001-2005/PY
L45 25 L33 NOT 2001-2005/PY

FILE 'BIOTECHNO'
368875 2001-2005/PY
L46 28 L34 NOT 2001-2005/PY

FILE 'WPIDS'
4003466 2001-2005/PY
L47 31 L35 NOT 2001-2005/PY

TOTAL FOR ALL FILES
L48 444 L36 NOT 2001-2005/PY

=> dup rem 148
PROCESSING COMPLETED FOR L48
L49 207 DUP REM L48 (237 DUPLICATES REMOVED)

=> d tot

L49 ANSWER 1 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI A new chitosanase producing microbe, *Burkholderia gladioli* for
manufacturing chitosan oligosaccharide;
Production of chitosan oligosaccharide by *Burkholderia gladioli* sp.
CHB101
AN 2000-06955 BIOTECHDS
PI JP 2000041664 15 Feb 2000

L49 ANSWER 2 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on
STN
TI Fermentation of plant cell wall derived polysaccharides and their
corresponding oligosaccharides by intestinal bacteria
SO JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, (MAY 2000) Vol. 48, No. 5, pp.
1644-1652.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0021-8561.
AU VanLaere K M J; Hartemink R; Bosveld M; Schols H A; Voragen A G J
(Reprint)
AN 2000:395182 SCISEARCH

L49 ANSWER 3 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Role of oligosaccharides in microbial glycoproteins and synthetic methods
of neoglycoproteins
SO Nippon Nogei Kagaku Kaishi (2000), 74(11), 1237-1246
CODEN: NNKKA; ISSN: 0002-1407
AU Takegawa, Kaoru
AN 2000:810811 HCAPLUS
DN 133:331223

L49 ANSWER 4 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Production of heterologous oligosaccharides by
recombinant bacteria (recombinant oligosaccharides)
SO Carbohydrates in Chemistry and Biology (2000), Volume 2, 845-860.
Editor(s): Ernst, Beat; Hart, Gerald W.; Sinay, Pierre. Publisher:
Wiley-VCH Verlag GmbH, Weinheim, Germany.

- CODEN: 69AMJE
AU Geremia, Roberto A.; Samain, Eric
AN 2000:717510 HCAPLUS
DN 134:85146
- L49 ANSWER 5 OF 207 MEDLINE on STN DUPLICATE 2
TI Large-scale production of oligosaccharides using
engineered bacteria.
SO Current opinion in structural biology, (2000 Oct) 10 (5) 536-41. Ref: 50
Journal code: 9107784. ISSN: 0959-440X.
AU Endo T; Koizumi S
AN 2000502273 MEDLINE
- L49 ANSWER 6 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI A novel approach to the recovery of biologically active oligosaccharides
from milk using a combination of enzymatic treatment and nanofiltration;
combined lipase and nanofiltration of human defatted milk for
production of oligosaccharide with anti-Escherichia
coli activity
SO Biotechnol.Bioeng.; (2000) 69, 4, 461-67
CODEN: BIBIAU ISSN: 0006-3592
AU Sarney D B; Hale C; Frankel G; *Vulfson E N
AN 2000-10620 BIOTECHDS
- L49 ANSWER 7 OF 207 MEDLINE on STN DUPLICATE 3
TI Microbial production of oligosaccharides: a
review.
SO Advances in applied microbiology, (2000) 47 299-343. Ref: 115
Journal code: 0370413. ISSN: 0065-2164.
AU Prapulla S G; Subhaprada V; Karanth N G
AN 2003345491 MEDLINE
- L49 ANSWER 8 OF 207 MEDLINE on STN DUPLICATE 4
TI Large-scale production of CMP-NeuAc and sialylated
oligosaccharides through bacterial coupling.
SO Applied microbiology and biotechnology, (2000 Mar) 53 (3) 257-61.
Journal code: 8406612. ISSN: 0175-7598.
AU Endo T; Koizumi S; Tabata K; Ozaki A
AN 2000233416 MEDLINE
- L49 ANSWER 9 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis of a di- and trisaccharide related to the repeating unit of E.
coli O128 lipopolysaccharide
SO Journal of Carbohydrate Chemistry (2000), 19(2), 243-251
CODEN: JCACDM; ISSN: 0732-8303
AU Sengupta, Prabal; Basu, Sumanta; Chatterjee, Bishnu P.
AN 2000:228023 HCAPLUS
DN 133:30898
- L49 ANSWER 10 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Solid-phase synthesis of a bacterial
oligosaccharide antigen.
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States, August 20-24, 2000 (2000) ORGN-216
CODEN: 69FZC3
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AN 2000:796718 HCAPLUS
- L49 ANSWER 11 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Large-scale production of GDP-fucose and Lewis X by bacterial coupling
SO Journal of Industrial Microbiology & Biotechnology (2000), 25(4), 213-217
CODEN: JIMBFL; ISSN: 1367-5435
AU Koizumi, S.; Endo, T.; Tabata, K.; Nagano, H.; Ohnishi, J.; Ozaki, A.
AN 2001:59943 HCAPLUS

DN 134:236268

L49 ANSWER 12 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
DUPLICATE 5
TI Uronic acid-containing oligosaccharins: Their biosynthesis, degradation and signalling roles in non-diseased plant tissues
SO PLANT PHYSIOLOGY AND BIOCHEMISTRY, (JAN-FEB 2000) Vol. 38, No. 1-2, pp. 125-140.
Publisher: GAUTHIER-VILLARS/EDITIONS ELSEVIER, 23 RUE LINOIS, 75015 PARIS, FRANCE.
ISSN: 0981-9428.
AU Dumville J C; Fry S C (Reprint)
AN 2000:280993 SCISEARCH

L49 ANSWER 13 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Effect on gut flora of oligosaccharide synthesizing enzymes
SO Shoka to Kyushu (2000), 23(2), 107-109
CODEN: SHKYEZ; ISSN: 0389-3626
AU Kariya, Kinya; Ogawa, Tomonari; Jo, Takashi
AN 2001:384881 HCAPLUS
DN 135:150320

L49 ANSWER 14 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
DUPLICATE 6
TI Effect of oligosaccharides and fibre substitutes on short-chain fatty acid production by human faecal microflora
SO ANAEROBE, (APR 2000) Vol. 6, No. 2, pp. 87-92.
Publisher: ACADEMIC PRESS LTD, 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND.
ISSN: 1075-9964.
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AN 2000:343219 SCISEARCH

L49 ANSWER 15 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
DUPLICATE 7
TI Functional analysis of chimeras derived from the *Sinorhizobium meliloti* and *Mesorhizobium loti* nodC genes identifies regions controlling chitin oligosaccharide chain length
SO MOLECULAR AND GENERAL GENETICS, (SEP 2000) Vol. 264, No. 1-2, pp. 75-81.
Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010.
ISSN: 0026-8925.
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L49 ANSWER 16 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Solid-phase synthesis of a bacterial oligosaccharide antigen.
SO ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, (20 AUG 2000) Vol. 220, Part 2, pp. U66-U66. MA 216-ORGN.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
ISSN: 0065-7727.
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AN 2001:131060 SCISEARCH

L49 ANSWER 17 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Study on fructo-oligosaccharide production by microbial enzymatic reaction
SO Shipin Kexue (Beijing) (2000), 21(6), 31-35
CODEN: SPKHD5; ISSN: 1002-6630
AU Cao, Xia; Zhang, Wei; Wang, Yingfeng; Yang, Xiushan
AN 2000:467331 HCAPLUS
DN 133:149512

L49 ANSWER 18 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

STN
TI Solid-phase synthesis of a bacterial oligosaccharide antigen.
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Meeting Info.: 220th National Meeting of the American Chemical Society. Washington, DC, Washington DC, USA. August 20-24, 2000. American Chemical Society.
CODEN: ACSRAL. ISSN: 0065-7727.
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AN 2000:440809 BIOSIS

L49 ANSWER 19 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI A process for preparation of 6-kestose oligosaccharides; by Acetobacter polysaccharogenes or Gluconobacter albidus activity on sucrose
AN 1999-06786 BIOTECHDS
PI JP 11046785 23 Feb 1999

L49 ANSWER 20 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Cloning, expression and characterization of a UDP-galactose 4-epimerase from Escherichia coli; plasmid pET15b-galE expression in bacterium for enzyme production and application in alpha-Gal oligosaccharide production for xenotransplantation support
SO Biotechnol.Lett.; (1999) 21, 12, 1131-35
CODEN: BILED3 ISSN: 0141-5492
AU Chen X; Kowal P; Hamad S; Fan H; *Wang P G
AN 2000-02215 BIOTECHDS

L49 ANSWER 21 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Beta-galactooligosaccharide synthesis with beta-galactosidase from Sulfolobus solfataricus, Aspergillus oryzae, and Escherichia coli; oligosaccharide production using thermostable and non-thermostable enzyme
SO Enzyme Microb.Technol.; (1999) 25, 6, 509-16
CODEN: EMTED2 ISSN: 0141-0229
AU Reuter S; Nygaard A R; *Zimmermann W
AN 1999-12884 BIOTECHDS

L49 ANSWER 22 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Synthesis of alpha-galacto-oligosaccharides by a cloned alpha-galactosidase from Bifidobacterium adolescentis; galacto-oligosaccharide probiotic production using transformed Escherichia coli
SO Biotechnol.Lett.; (1999) 21, 5, 441-45
CODEN: BILED3 ISSN: 0141-5492
AU van den Broek L A M; Ton J; Verdoes J C; van Laere K M J; *Voragen A G J; Beldman G
AN 1999-10111 BIOTECHDS

L49 ANSWER 23 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 8
TI Microbial production of inulo-oligosaccharides by an endoinulinase from Pseudomonas sp expressed in Escherichia coli
SO JOURNAL OF BIOSCIENCE AND BIOENGINEERING, (MAR 1999) Vol. 87, No. 3, pp. 291-295.
Publisher: SOC BIOSCIENCE BIOENGINEERING JAPAN, OSAKA UNIV, FACULTY ENGINEERING, 2-1 YAMADAOKA, SUITA, OSAKA 565-0871, JAPAN.
ISSN: 1389-1723.
AU Yun J W (Reprint); Choi Y J; Song C H; Song S K
AN 1999:502481 SCISEARCH

- L49 ANSWER 24 OF 207 MEDLINE on STN DUPLICATE 9
TI Oligosaccharide recognition signals and defence reactions in marine plant-microbe interactions.
SO Current opinion in microbiology, (1999 Jun) 2 (3) 276-83. Ref: 64
Journal code: 9815056. ISSN: 1369-5274.
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AN 1999316463 MEDLINE
- L49 ANSWER 25 OF 207 MEDLINE on STN DUPLICATE 10
TI Electron beam fragmentation of **bacterial** polysaccharides as a method of **producing oligosaccharides** for the preparation of conjugate vaccines.
SO FEMS microbiology letters, (1999 May 15) 174 (2) 255-63.
Journal code: 7705721. ISSN: 0378-1097.
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AN 1999271175 MEDLINE
- L49 ANSWER 26 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Isolation of endophytes from plants in Southeast Asia and Japan, and their identification by 18S rRNA gene
SO Biotechnology for Sustainable Utilization of Biological Resources in the Tropics (1999), 13, 227-232
CODEN: BSUTFT
AU Tanaka, Michiko; Sukiman, Harmastini; Takebayashi, Miho; Saito, Katsuichi; Suto, Manabu; Prana, Titik K.; Prana, Made Sri; Tomita, Fusao
AN 2000:309091 HCAPLUS
DN 133:234880
- L49 ANSWER 27 OF 207 MEDLINE on STN DUPLICATE 11
TI The living factory: in vivo production of N-acetyllactosamine containing carbohydrates in *E. coli*.
SO Glycoconjugate journal, (1999 Mar) 16 (3) 205-12.
Journal code: 8603310. ISSN: 0282-0080.
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AN 2000062031 MEDLINE
- L49 ANSWER 28 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 12
TI Functional domains in the chitin oligosaccharide synthase NodC and related beta-polysaccharide synthases
SO TRENDS IN GLYCOSCIENCE AND GLYCOTECHNOLOGY, (JUL 1999) Vol. 11, No. 60, pp. 187-199.
Publisher: FCCA-FORUM CARBOHYDRATES COMING AGE, C/O GAKUSHIN CO LTD, DEPT PUBL 2-1-21 TARUMI-CHO, SUITA 564, OSAKA JAPAN.
ISSN: 0915-7352.
AU Kamst E (Reprint); Spaink P H
AN 1999:800647 SCISEARCH
- L49 ANSWER 29 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 13
TI Chemical synthesis of N-acetylglucosamine derivatives and their use as glycosyl accepters by the *Mesorhizobium loti* chitin oligosaccharide synthase NodC
SO CARBOHYDRATE RESEARCH, (15 OCT 1999) Vol. 321, No. 3-4, pp. 176-189.
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ISSN: 0008-6215.
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AN 1999:960921 SCISEARCH
- L49 ANSWER 30 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 14

- TI Synthesis of inner core antigens related to Chlamydia, Pseudomonas and Acinetobacter LPS
SO JOURNAL OF ENDOTOXIN RESEARCH, (FEB 1999) Vol. 5, No. 3, pp. 157-163.
Publisher: MANEY PUBLISHING LTD, HUNDSON RD, LEEDS LS9 7DL, ENGLAND.
ISSN: 0968-0519.
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AN 1999:745974 SCISEARCH
- L49 ANSWER 31 OF 207 MEDLINE on STN DUPLICATE 15
TI Synthesis of oligosaccharides by bacterial enzymes.
SO Glycoconjugate journal, (1999 Feb) 16 (2) 141-6. Ref: 54
Journal code: 8603310. ISSN: 0282-0080.
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AN 2000077660 MEDLINE
- L49 ANSWER 32 OF 207 MEDLINE on STN DUPLICATE 16
TI Enzymatic synthesis of Kdn oligosaccharides by a bacterial alpha-(2-->6)-sialyltransferase.
SO Carbohydrate research, (1999 Jan 31) 315 (1-2) 137-41.
Journal code: 0043535. ISSN: 0008-6215.
AU Kajihara Y; Akai S; Nakagawa T; Sato R; Ebata T; Kodama H; Sato K
AN 1999313754 MEDLINE
- L49 ANSWER 33 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Isolation of chitinolytic bacteria from the viscera of korean bony fishes and optimization of the enzyme production
SO Journal of Fisheries Science and Technology (1999), 2(1), 105-111
CODEN: JFIFTY; ISSN: 1226-9204
AU Lee, Jung-Suck; Joo, Dong-Sik; Cho, Soon-Yeong; Cho, Man-Gi; Lee, Eung-Ho
AN 1999:731614 HCAPLUS
DN 132:90444
- L49 ANSWER 34 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 17
TI Production of inulo-oligosaccharides from inulin by recombinant E-coli containing endoinulinase activity
SO BIOPROCESS ENGINEERING, (AUG 1999) Vol. 21, No. 2, pp. 101-106.
Publisher: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010.
ISSN: 0178-515X.
AU Yun J W (Reprint); Song C H; Choi J W; Choi Y J; Song S K
AN 1999:657521 SCISEARCH
- L49 ANSWER 35 OF 207 MEDLINE on STN DUPLICATE 18
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L49 ANSWER 49 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
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cost.
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DN 128:291908
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L49 ANSWER 70 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
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oligosaccharide;

purification from Absidia coerulea or Mucor tuberculiferous by cell
wall lysis using Bacillus sp. chitosanase or Trichoderma sp. cellulase
lytic enzyme

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L49 ANSWER 71 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
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recombinant enzyme production by gene expression in Bacillus circulans

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exogenous pyruvate decarboxylase and alcohol dehydrogenase genes

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W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TT, UA, UZ, VN				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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AU 9522034	A1	19951023	AU 1995-22034	19950330

L49 ANSWER 73 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

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is prepared from chitin or chitin oligosaccharide by reacting with an enzyme
produced by Vibrio alginolyticus.

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L49 ANSWER 74 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

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from protein and oligosaccharide having galactose at non-reducing terminal
and glucose at reducing terminal of saccharide chain.

PI JP 07033679 A 19950203 (199515)* 4 A61K038-00

L49 ANSWER 75 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

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microbes in medium containing maltose as carbon source, culturing in aerobic
conditions and separating produced panose.

PI JP 07008287 A 19950113 (199512)* 4 C12P019-00

L49 ANSWER 76 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

TI Producing oligosaccharide(s) containing panose - by inoculating Monilella
microbes to medium containing maltose carbon source, aerobically culturing and
separating obtd. panose.

PI JP 07008286 A 19950113 (199512)* 4 C12P019-00

L49 ANSWER 77 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

TI Panose-containing oligosaccharide production for food and drink or drugs -
comprises inoculating Debaryomyces in maltose-containing medium, and culturing

- microbe in aerobic conditions.
- PI JP 07008285 A 19950113 (199512)* 4 C12P019-00
- L49 ANSWER 78 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Panose containing oligosaccharide production, used for food, drink or drugs - involves culturing *Aureobasidium* microbes under aerobic conditions using maltose containing medium.
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TI Mass spectrometric analysis of chitin oligosaccharides produced by *Rhizobium NodC* protein in *Escherichia coli*
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Journal code: 7505876. ISSN: 0027-8424.
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 Neisseria polysaccharea enzyme expression in *Escherichia coli*, for potential use in oligosaccharide production
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DN 123:257178
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CODEN: 61EZA8
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DN 123:112522
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DN 124:176722
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DN 124:287170
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L49 ANSWER 91 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
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Vibrio sp. recombinant agarase production following gene cloning and
expression in *Escherichia coli*; potential application in
neo-agaro-oligosaccharide production
AN 1995-01816 BIOTECHDS
PI JP 06284888 11 Oct 1994

L49 ANSWER 92 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
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treating inulin with the supernatant or cells from culture of a
microorganism which produces a suitable enzyme.
PI WO 9410295 A1 19940511 (199420)* JA 15 C12N009-10
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: US
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JP 06141879 A 19940524 (199425) 4 C12P019-18
IN KUSHIBE, S; MORIMOTO, Y

L49 ANSWER 93 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
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obtd. by culturing microorganisms of *Actinomycetes* or *Micropolyspora* genus
in medium.
PI JP 06298784 A 19941025 (199502)* 5 C07H003-06
JP 2564752 B2 19961218 (199704) 5 C07H003-06

L49 ANSWER 94 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI New cyclo-iso malto-oligosaccharide(s) - are inclusion agents which can
solubilise and stabilise substances and for use in e.g. medicaments and
food.
PI EP 608636 A1 19940803 (199430)* EN 15 C08B037-02
R: DE FR GB NL SE
JP 06197783 A 19940719 (199433) 6 C12P019-04
US 5364936 A 19941115 (199445) 10 C08B037-16
JP 07008276 A 19950113 (199512) 7 C12N009-44
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JP 3075873 B2 20000814 (200043) 6 C12P019-04
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IN HORIUCHI, T; OGUMAN, T; TOBE, K; OGUMAM, T; OGUMA, T

L49 ANSWER 95 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Recombinant whole cells as catalysts for enzymic synthesis of
oligosaccharides and glycopeptides
SO Angewandte Chemie (1994), 106(12), 1346-7 (See also Angew. Chem., Int. Ed.
Engl., 1994, 33(12), 1241-2)
CODEN: ANCEAD; ISSN: 0044-8249
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AN 1994:555800 HCAPLUS
DN 121:155800

L49 ANSWER 96 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI On the action mechanism of cyclomaltodextrin-glucanotransferases from
alkalophilic, thermophilic and mesophilic microorganisms;
cyclomaltodextrin-glucanotransferase characterization for use in
cyclodextrin production
SO Biokhimiya; (1994) 59, 8, 1122-29
CODEN: BIOHAO
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SO Cellular and Molecular Biology (Paris) (1994), 40(7), 1029-37
CODEN: CMOBEF; ISSN: 0145-5680
AU Semino, Carlos E.; Dankert, Marcelo A.
AN 1995:140594 HCAPLUS
DN 122:27438
- L49 ANSWER 98 OF 207 MEDLINE on STN DUPLICATE 35
TI Nodulation protein NodL of *Rhizobium leguminosarum* O-acetylates lipo-oligosaccharides, chitin fragments and N-acetylglucosamine in vitro.
SO Molecular microbiology, (1994 Feb) 11 (4) 793-804.
Journal code: 8712028. ISSN: 0950-382X.
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- L49 ANSWER 99 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
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SO Revista Brasileira de Ciencia do Solo (1994), 18(3), 339-64
CODEN: RBCSDP; ISSN: 0100-0683
AU Hungria, M.
AN 1995:669935 HCAPLUS
DN 123:193547
- L49 ANSWER 100 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
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CODEN: JFBIEX
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AN 1994-05190 BIOTECHDS
- L49 ANSWER 101 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI The molecular basis of host specificity in the *Rhizobium* leguminosarum-plant interaction
SO Current Plant Science and Biotechnology in Agriculture (1994), 21(Advances in Molecular Genetics of Plant-Microbe Interactions, Vol. 3), 91-8
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DN 123:79085
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TI The molecular basis of the host specificity of the *Rhizobium* bacteria.
SO Antonie van Leeuwenhoek, (1994) 65 (2) 81-98. Ref: 49
Journal code: 0372625. ISSN: 0003-6072.
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AN 95070066 MEDLINE
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TI Large scale heterologous expression, purification and synthetic studies of an alpha-1,2-mannosyltransferase; gene cloning in *Escherichia coli* for use in oligosaccharide and glycopeptide production (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1994) 207 Meet., Pt.1, BIOT156
CODEN: ACSRAL
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AN 1994-06460 BIOTECHDS

- L49 ANSWER 104 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI Sebum secretagogue;
 prepared from malto-oligosaccharide e.g. maltotriose, maltotetraose or
 maltopentaose, which is prepared by partial starch hydrolysis using
 acid, amylase or alpha-amylase
- AN 1994-01419 BIOTECHDS
 PI JP 05294837 9 Nov 1993
- L49 ANSWER 105 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI Production of bacteriostatic oligosaccharide
 alginate for food preservative;
 involves culturing an alginate-lyase-producing *Vibrio* sp in culture
 medium containing sodium alginate and isolating the antibiotic
 produced
- AN 1994-01571 BIOTECHDS
 PI JP 05252970 5 Oct 1993
- L49 ANSWER 106 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI A method for the preparation of cello-oligosaccharide;
 cellulase pretreatment to remove beta-glucosidase activity
- AN 1993-10022 BIOTECHDS
 PI JP 05115293 14 May 1993
- L49 ANSWER 107 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
 TI Fermentation accelerators containing oligosaccharides for meat products
 and manufacture of meat products with them
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 IN Shimamura, Seiichi; Tamura, Yoshitaka; Mizota, Teruhiko; Komuro, Akira
 AN 1993:515965 HCAPLUS
 DN 119:115965
 PATENT NO. KIND DATE APPLICATION NO. DATE
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 PI JP 05103631 A2 19930427 JP 1991-269693 19911017
 JP 2885554 B2 19990426
- L49 ANSWER 108 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
 TI Chitin oligosaccharides, chitin, or its partial degradation
 products as bactericides and fungicides
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 IN Shimai, Yoshuki; Tsukuda, Koji; Seino, Haruyoshi
 AN 1993:471245 HCAPLUS
 DN 119:71245
 PATENT NO. KIND DATE APPLICATION NO. DATE
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 PI JP 05092926 A2 19930416 JP 1991-99878 19910201
- L49 ANSWER 109 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
 TI Production of brown algae decomposition prod. for oligosaccharide(s)
 production -
 by decomposing brown algae using enzymes produced by microorganisms
 belonging to genus *Altermonas*.
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 JP 3079183 B2 20000821 (200043) 5 C12P019-04
- L49 ANSWER 110 OF 207 MEDLINE on STN DUPLICATE 38
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 gene expression in pea root hairs.
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 Journal code: 9207397. ISSN: 0960-7412.
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 AN 94073227 MEDLINE

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TI Structural analysis of two oligosaccharide bisphosphates isolated from the lipopolysaccharide of a recombinant strain of *Escherichia coli* F515 (Re chemotype) expressing the genus-specific epitope of *Chlamydia* lipopolysaccharide
SO European Journal of Biochemistry (1993), 214(3), 703-10
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AN 1993:535154 HCPLUS
DN 119:135154
- L49 ANSWER 112 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 39
TI CONTROL OF THE EXPRESSION OF BACTERIAL GENES INVOLVED IN SYMBIOTIC NITROGEN-FIXATION
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AN 93:432530 SCISEARCH
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TI RHIZOBIAL LIPO-OLIGOSACCHARIDE SIGNALS AND THEIR ROLE IN PLANT MORPHOGENESIS - ARE ANALOGOUS LIPOPHILIC CHITIN DERIVATIVES PRODUCED BY THE PLANT
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AN 93:637982 SCISEARCH
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TI Effects of biosynthetic polysaccharides and oligosaccharides on intestinal bacteria
SO Shipin Kexue (Taipei) (1993), 20(2), 187-97
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AN 1995:281446 HCPLUS
DN 122:51001
- L49 ANSWER 115 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Noncellulolytic fungal beta-glucanases: their physiology and regulation; beta-glucanase occurrence, biosynthesis, mechanism of action, function, purification, characterization and potential applications; a review
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CODEN: EMTED2
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AN 1993-04086 BIOTECHDS
- L49 ANSWER 116 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Development of enzymes for chemoenzymatic synthesis; oligosaccharide and peptide preparation; characterization of enzyme-catalyzed reactions, enzyme gene cloning and enzyme engineering; a review (conference paper)
SO Chimia; (1993) 47, 4, 127-32
CODEN: CHIMAD
AU Wong C H
AN 1993-14752 BIOTECHDS
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 SO Chemical Communications (Stockholm University) (1993), (3), 32 pp.
 CODEN: CCUSBN; ISSN: 0366-5607
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 AN 1993:581091 HCAPLUS
 DN 119:181091
- L49 ANSWER 118 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
 TI Development of functional food-materials utilizing enzymes and **microorganisms**. Development of technology **producing oligosaccharides**
 SO Kenkyu Hokoku - Fukuoka-ken Kogyo Gijutsu Senta (1993), Volume Date 1992, 3, 7-12
 CODEN: KFKSEH; ISSN: 0916-8230
 AU Furuta, Masanori; Nomiyama, Syuji; Ohta, Shumei
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 DN 122:54564
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 TI Galacto-oligosaccharide and gluconic acid preparation; from lactose using glucose-oxidase from *Sterigmatomyces elviae*, *Sirobasidium mugnum*, *Rhodotorula minuta*, etc.
 AN 1992-10996 BIOTECHDS
 PI JP 04144691 19 May 1992
- L49 ANSWER 120 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
 TI Increased utilization of fed substrates during microbial product biosynthesis
 SO Ger. (East), 9 pp.
 CODEN: GEXXA8
 IN Christner, Arnulf; Helmke, Claus; Mellinger, Uwe; Heinig, Klaus
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 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI DD 298282 A5 19920213 DD 1988-323961 19881227
- L49 ANSWER 121 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
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 PI JP 04190789 A 19920709 (199234)* 4 C12N009-24
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 TI MUCIN DEGRADATION IN THE HUMAN COLON - PRODUCTION OF SIALIDASE, SIALATE O-ACETYLESTERASE, N-ACETYLNEURAMINATE LYASE, ARYLESTERASE, AND GLYCOSULFATASE ACTIVITIES BY STRAINS OF FECAL BACTERIA
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 ISSN: 0019-9567.
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SO Plant molecular biology, (1992 Dec) 20 (5) 977-86. Ref: 51
Journal code: 9106343. ISSN: 0167-4412.
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AN 93099248 MEDLINE
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vertebrate, and **bacterial** cell-wall glycans
SO Carbohydrates (1992), 188-227. Editor(s): Ogura, Haruo; Hasegawa, Akira;
Suami, Tetsuo. Publisher: Kodansha, Tokyo, Japan.
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AN 1995:336830 HCAPLUS
DN 122:161053
- L49 ANSWER 126 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Oligosaccharides production** from natural
polysaccharides by **microbial** depolymerizing enzymes
SO Kagaku to Seibutsu (1992), 30(3), 170-5
CODEN: KASEAA; ISSN: 0453-073X
AU Tomita, Fusao; Yokota, Atsushi
AN 1992:233785 HCAPLUS
DN 116:233785
- L49 ANSWER 127 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Development of functional food materials utilizing enzymes and
microorganisms. Characteristics of the enzyme for
production of oligosaccharides
SO Kenkyu Hokoku - Fukuoka-ken Kogyo Gijutsu Senta (1992), Volume Date 1991,
2, 95-100
CODEN: KFKSEH; ISSN: 0916-8230
AU Furuta, Masanori; Takada, Yasuyoshi; Suenaga, Hikaru; Ohta, Shumei
AN 1993:624730 HCAPLUS
DN 119:224730
- L49 ANSWER 128 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Cloning of *Bacillus licheniformis* amylase gene and its application to
synthesis of branched oligosaccharides;
oligosaccharide preparation and starch liquefaction using
panose-forming amylase and recombinant thermostable alpha-amylase
expressed in *Escherichia coli* (conference paper)
SO Biochem.Eng.2001; (1992) 80-83
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AN 1993-04106 BIOTECHDS
- L49 ANSWER 129 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
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soybean galactan;
galacto-oligosaccharide production using galactanase-producing
Bacillus spp. isolated from soil
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CODEN: ABCHA6
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TI STUDIES ON ENZYMATIC PRODUCTION OF OLIGOSACCHARIDES
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L49 ANSWER 131 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation
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TI EFFECT OF LIPOPOLYSACCHARIDE CORE SYNTHESIS MUTATIONS ON THE PRODUCTION OF
VIBRIO-CHOLERAES O-ANTIGEN IN ESCHERICHIA-COLI K-12
SO FEMS MICROBIOLOGY LETTERS, (1991) Vol. 82, No. 3, pp. 279-286.
AU MORONA R (Reprint); BROWN M H; YEADON J; HEUZENROEDER M W; MANNING P A
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Vibrio cholerae O-antigen in Escherichia coli K-12.
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Journal code: 7705721. ISSN: 0378-1097.
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L49 ANSWER 133 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Synthesis** of fructan and **oligosaccharides** by
microbial fructosyltransferases
SO Denpun Kagaku (1991), 38(2), 217-22
CODEN: DPNKAV; ISSN: 0021-5406
AU Iizuka, Masaru; Tanaka, Toshio; Yamamoto, Satoru; Yoneda, Yukio; Itokawa,
Shigekazu; Hiyama, Masato; Ito, Kazuo; Furuichi, Kimiaki; Minamiura,
Noshi; Yamamoto, Takehiko
AN 1991:678091 HCAPLUS
DN 115:278091

L49 ANSWER 134 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Degradation and utilization of xylan by a genetically modified
Bacteroides thetaiotaomicron and in combination with selected ruminal
bacteria;
Bacteroides ruminicola recombinant endo-1,4-beta-D-xylanase
production; hemicellulose, xylan hydrolysis, xylo-
oligosaccharide end-product utilization by rumen
bacterium (conference abstract)
SO Abstr.Gen.Meet.Am.Soc.Microbiol.; (1991) 91 Meet., 202
AU Cotta M A; Whitehead T R
AN 1991-11885 BIOTECHDS

L49 ANSWER 135 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Apparatus for producing immobilized cell;
cell immobilization apparatus for cell mixing with support and
pressurized injection through needle for bead formation; potential
application fructo-oligosaccharide production
AN 1991-15095 BIOTECHDS
PI KR 9005528 31 Jul 1990

L49 ANSWER 136 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Galacto-oligosaccharide production - by allowing microbe of Rhodotorula,
sterigmatomyces or sirobasidium to act on lactose to generate
galacto-oligo-saccharide and extracting it.
PI JP 02072890 A 19900313 (199016)*
JP 2600874 B2 19970416 (199720) 3 C12P019-00

L49 ANSWER 137 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
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TI **SYNTHESIS OF OLIGOSACCHARIDES RELATED TO**
BACTERIAL O-ANTIGENS.
SO Top. Curr. Chem., (1990) pp. 1-38. THIEM, J. (ED.). TOPICS IN CURRENT
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 TI Cloning and expression in *Escherichia coli* of a *Haemophilus influenzae* type b lipooligosaccharide synthesis gene(s) that encodes a 2-keto-3-deoxyoctulosonic acid epitope
 SO Infection and Immunity (1990), 58(6), 1558-64
 CODEN: INFIBR; ISSN: 0019-9567
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 AN 1990:527265 HCPLUS
 DN 113:127265
- L49 ANSWER 139 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN
 TI **Synthesis of oligosaccharides** by use of **microbial enzymes**
 SO Denpun Kagaku (1990), 37(2), 59-67
 CODEN: DPNKAV; ISSN: 0021-5406
 AU Kitahata, Sumio
 AN 1990:570336 HCPLUS
 DN 113:170336
- L49 ANSWER 140 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN
 TI Biotechnological and chemical routes to intermediate synthesis products from sucrose
 SO Zuckerindustrie (Berlin, Germany) (1990), 115(1), 20-4
 CODEN: ZUCKDI; ISSN: 0344-8657
 AU Buchholz, Klaus; Kunz, Markwart
 AN 1990:404553 HCPLUS
 DN 113:4553
- L49 ANSWER 141 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 47
 TI **SYNTHESIS OF OLIGOSACCHARIDES RELATED TO BACTERIAL O-ANTIGENS**
 SO TOPICS IN CURRENT CHEMISTRY, (1990) Vol. 154, pp. 1-37.
 AU BUNDLE D R (Reprint)
 AN 90:478880 SCISEARCH
- L49 ANSWER 142 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 48
 TI Plant culture with growth accelerators prepared from polysaccharides of microbial cultures
 SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 IN Adachi, Takashi; Ishii, Takafumi; Hidaka, Hidemasa
 AN 1990:72298 HCPLUS
 DN 112:72298
 PATENT NO. KIND DATE APPLICATION NO. DATE
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 PI JP 01079101 A2 19890324 JP 1987-234755 19870921
 JP 07106966 B4 19951115
- L49 ANSWER 143 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI **Production of oligosaccharide using dextranase producer bacteria** e.g. *Streptococcus bovis*;
 culture medium effect
 AN 1989-12709 BIOTECHDS
 PI JP 01148195 9 Jun 1989
- L49 ANSWER 144 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
 TI Enzymatic production of cello oligosaccharide - involves removing inhibition of prod. using ultrafiltration of culture medium containing Cellulibrio

- microorganism.
- PI JP 01256394 A 19891012 (198947)* 4
US 4908311 A 19900313 (199016)
JP 05083238 B 19931125 (199350) 3 C12P019-14
- L49 ANSWER 145 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Enzymic preparation of N-acetyl chito-oligosaccharide - by culturing microbe of trichoderma which produces chitinase, etc..
PI JP 01174383 A 19890710 (198933)* 7
JP 07089922 B2 19951004 (199544) 5 C12N009-42
- L49 ANSWER 146 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
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CODEN: FAJOEC. ISSN: 0892-6638.
AU SILVETTI A N [Reprint author]
AN 1989:324650 BIOSIS
- L49 ANSWER 147 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Production of galactooligosaccharides by microbial enzymes
SO Kagaku to Kogyo (Osaka, Japan) (1989), 63(10), 407-15
CODEN: KKGOAG; ISSN: 0368-5918
AU Nakano, Hirofumi
AN 1990:34334 HCAPLUS
DN 112:34334
- L49 ANSWER 148 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Synthesis of oligosaccharides by microbial enzymes**
SO Kagaku to Kogyo (Osaka, Japan) (1989), 63(4), 161-9
CODEN: KKGOAG; ISSN: 0368-5918
AU Kitahata, Sumio
AN 1989:493061 HCAPLUS
DN 111:93061
- L49 ANSWER 149 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI **MICROBIAL ENZYMES THAT PRODUCE SPECIFIC OLIGOSACCHARIDES**
SO ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY, (1989) Vol. 198, No. SEP, pp. 42-CARB.
AU PRIEST F G (Reprint)
AN 90:346637 SCISEARCH
- L49 ANSWER 150 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Application of soybean oligosaccharides
SO New Food Industry (1989), 31(6), 33-8
CODEN: NYFIAM; ISSN: 0547-0277
AU Kawaguchi, Hiroshi
AN 1989:532648 HCAPLUS
DN 111:132648
- L49 ANSWER 151 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI **Microbial enzymes that produce specific oligosaccharides;**
oligosaccharide preparation by starch saccharification (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1989) 198 Meet., CARB42
CODEN: ACSRAL
AU Priest F G

AN 1990-00411 BIOTECHDS

L49 ANSWER 152 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Malto-oligosaccharide-forming amylase production - by culturing *Bacillus*
bacteria producing amylase and recovering malto-
oligosaccharide.

PI JP 63237786 A 19881004 (198845)* 9
JP 2559400 B2 19961204 (199702) 7 C12N009-26

L49 ANSWER 153 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Lactic acid bacteria breeding accelerator - contains chitosan
oligosaccharide, and is useful for production of dairy products.

PI JP 63098379 A 19880428 (198823)* 9
JP 04063674 B 19921012 (199245) 9 C12N001-38

L49 ANSWER 154 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Sweetener oligosaccharide(s) production - comprises treating lactose with at
least two kinds of beta-galactosidase(s) from different microorganisms.

PI EP 263700 A 19880413 (198815)* EN 7
R: CH DE FR GB IT LI NL SE
JP 63091092 A 19880421 (198822)
AU 8779343 A 19880414 (198823)
US 4895801 A 19900123 (199011) 4
CA 1307755 C 19920922 (199244) C12P019-04
EP 263700 B1 19921230 (199301) EN 9 C12P019-14
R: CH DE FR GB IT LI NL SE
DE 3783303 G 19930211 (199307) C12P019-14
JP 05022516 B 19930329 (199315) 4 C12P019-14
KR 9309085 B1 19930922 (199436) C12P019-00
EP 263700 B2 19970502 (199722) EN 7 C12P019-14

R: CH DE FR GB IT LI NL SE
IN KAN, T; KOBAYASHI, Y; TERASHIMA, T

L49 ANSWER 155 OF 207 MEDLINE on STN DUPLICATE 50

TI Degradation of human intestinal glycosphingolipids by extracellular
glycosidases from mucin-degrading bacteria of the human fecal flora.
SO Journal of biological chemistry, (1988 Aug 5) 263 (22) 10790-8.
Journal code: 2985121R. ISSN: 0021-9258.

AU Larson G; Falk P; Hoskins L C
AN 88273201 MEDLINE

L49 ANSWER 156 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Selection of microorganisms which produce raw-starch degrading enzymes;
isolation of *Bacillus*, *Aspergillus* and *Hansenula* spp. producing
alpha-amylase and/or glucoamylase

SO Appl.Microbiol.Biotechnol.; (1988) 27, 5-6, 443-46
CODEN: EJABDD

AU Bergmann F W; Abe J; Hizukuri S
AN 1988-07243 BIOTECHDS

L49 ANSWER 157 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Transglycosylase and hydrolase activities of carbohydrateases;
e.g. lysozyme, alpha-amylase, dextranase and glucoamylase; a review

SO Prikl.Biokhim.Mikrobiol.; (1988) 24, 3, 291-304
CODEN: PBMIAK

AU Maksimov V I
AN 1988-08210 BIOTECHDS

L49 ANSWER 158 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN

TI Synthesis of functional oligosaccharides by
microbial enzymes

SO Gekkan Fudo Kemikaru (1988), 4(6), 70-4
CODEN: GFKEEX; ISSN: 0911-2286

AU Kitahata, Sumio

AN 1988:547881 HCAPLUS
DN 109:147881

L49 ANSWER 159 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation
on STN DUPLICATE 52

TI SPECTROSCOPIC ANALYSIS OF THE OLIGOSACCHARIDES PRODUCED
BY BACTERIOPHAGE-BORNE ENZYME ACTION ON KLEBSIELLA-K36
POLYSACCHARIDE

SO SOUTH AFRICAN JOURNAL OF CHEMISTRY, (1988) Vol. 41, No. 2, pp. 42-47.

AU RAVENSCROFT N; JACKSON G E; JOAO H; STEPHEN A M (Reprint)

AN 88:402485 SCISEARCH

L49 ANSWER 160 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

TI The identification of lipopolysaccharide producing microorganisms;
hybridoma construction for monoclonal antibody secretion, application
for Gram-negative bacterium detection

AN 1987-11961 BIOTECHDS

PI US 4683196 28 Jul 1987

L49 ANSWER 161 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN

TI Foliar liquid fertilizers from wastewaters

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

AN 1990:6719 HCAPLUS

DN 112:6719

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 62283906	A2	19871209	JP 1986-124865	19860530

L49 ANSWER 162 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN

TI Manufacture of chondroitinsulfuric acid hydrolysates by immobilized
bacteria

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

IN Kimura, Hikari; Murata, Kosaku; Nonaka, Michio; Sato, Nobuyuki

AN 1987:552866 HCAPLUS

DN 107:152866

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 62130696	A2	19870612	JP 1985-270745	19851203
JP 05058716	B4	19930827		

L49 ANSWER 163 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

TI Malto pentose preparation - by acid hydrolysis of cyclodextrin then treatment
with amylase derived from *Bacillus* spp..

PI JP 62208294 A 19870912 (198742)* 4

L49 ANSWER 164 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN

TI The synthesis of the heptose region of the gram-negative bacterial core
oligosaccharides

SO Tetrahedron Letters (1987), 28(14), 1569-72

CODEN: TELEAY; ISSN: 0040-4039

AU Dziewiszek, Krzysztof; Banaszek, Anna; Zamojski, Aleksander

AN 1987:637165 HCAPLUS

DN 107:237165

L49 ANSWER 165 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation
on STN DUPLICATE 53

TI METHYLATION ANALYSIS OF THE OLIGOSACCHARIDES PRODUCED
BY BACTERIOPHAGE-BORNE ENZYME ACTION ON KLEBSIELLA K-36
POLYSACCHARIDE

SO SOUTH AFRICAN JOURNAL OF SCIENCE, (1987) Vol. 83, No. 9, pp. 560.

AU DUTTON G G S (Reprint); MACKIE K L; MERRIFIELD E H; RAVENSCROFT N; STEPHEN
A M

AN 87:634267 SCISEARCH

- L49 ANSWER 166 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Commercial polysaccharides: recent trends and developments;
polysaccharide production; a review (conference paper)
SO Prog.Biotechnol.; (1987) 3, 311-35
AU Yalpani M; Sandford P A
AN 1989-00990 BIOTECHDS
- L49 ANSWER 167 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI A novel lyase acting on gellan gum;
produced by *Pseudomonas elodea*, enzyme characterization (conference
abstract)
SO Eur.Congr.Biotechnol.; (1987) Vol.2, 176
AU Schmedding D J M; van den Dool R T M; Kerkenaar A
AN 1989-07786 BIOTECHDS
- L49 ANSWER 168 OF 207 LIFESCI COPYRIGHT 2005 CSA on STN DUPLICATE 54
TI The identification of oral microbial lectins by cell affinity
chromatography.
SO FEMS MICROBIOL. LETT., (1987) vol. 40, no. 1, pp. 123-127.
AU Murray, P.A.; Materese, V.; Hoover, C.I.; Winkler, J.R.
AN 87:69325 LIFESCI
- L49 ANSWER 169 OF 207 MEDLINE on STN DUPLICATE 55
TI Genetic and biochemical analysis of *Shigella dysenteriae* 1 O antigen
polysaccharide biosynthesis in *Escherichia coli* K-12: 9 kb plasmid of *S.*
dysenteriae 1 determines addition of a galactose residue to the
lipopolysaccharide core.
SO Microbial pathogenesis, (1986 Jun) 1 (3) 299-306.
Journal code: 8606191. ISSN: 0882-4010.
AU Sturm S; Jann B; Jann K; Fortnagel P; Timmis K N
AN 89237814 MEDLINE
- L49 ANSWER 170 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI A method for producing fructo-oligosaccharide by
immobilized microorganism;
sucrose conversion to inulin-type compounds using immobilized
Aureobasidium sp.
AN 1985-06600 BIOTECHDS
PI JP 60041497 5 Mar 1985
- L49 ANSWER 171 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Fructo-oligosaccharide production - by fermentation with an *Aureobasidium*
microorganism.
PI JP 60027395 A 19850212 (198512)* 11
JP 05004071 B 19930119 (199306) 13 C12P019-04
- L49 ANSWER 172 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
STN DUPLICATE 57
TI FORMATION OF OLIGOSACCHARIDES DURING HYDROLYSIS OF LACTOSE IN MILK USING
BETA GALACTOSIDASE FROM BACILLUS-CIRCULANS.
SO Journal of Food Science, (1985) Vol. 50, No. 6, pp. 1602-1606.
CODEN: JFDSAZ. ISSN: 0022-1147.
AU MOZAFFAR Z [Reprint author]; NAKANISHI K; MATSUNO R
AN 1986:131857 BIOSIS
- L49 ANSWER 173 OF 207 MEDLINE on STN DUPLICATE 58
TI Mutant of *Escherichia coli* deficient in osmoregulation of
periplasmic oligosaccharide synthesis.
SO Journal of bacteriology, (1985 Mar) 161 (3) 1049-53.
Journal code: 2985120R. ISSN: 0021-9193.
AU Clark D P
AN 85130782 MEDLINE

- L49 ANSWER 174 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Novel oligosaccharides obtained by bacteriophage degradation of the polysaccharide from Klebsiella serotype K26
SO Carbohydrate Research (1985), 144(2), 251-62
CODEN: CRBRAT; ISSN: 0008-6215
AU Di Fabio, Jose L.; Karunaratne, D. Nedra; Dutton, Guy G. S.
AN 1986:497844 HCAPLUS
DN 105:97844
- L49 ANSWER 175 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Gelling agent of non-branched polygalactan and metallic oxides; especially aluminum silicon and titanium oxides is used to replace agar in microorganism culture medium
AN 1984-11500 BIOTECHDS
PI EP 118376 12 Sep 1984
- L49 ANSWER 176 OF 207 MEDLINE on STN DUPLICATE 59
TI Regulation of the **synthesis** of membrane-derived **oligosaccharides** in **Escherichia coli**. Assay of phosphoglycerol transferase I in vivo.
SO Journal of biological chemistry, (1984 Jul 10) 259 (13) 8388-93.
Journal code: 2985121R. ISSN: 0021-9258.
AU Bohin J P; Kennedy E P
AN 84239819 MEDLINE
- L49 ANSWER 177 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 60
TI **SYNTHESIS** OF MORAPRENYL PYROPHOSPHATE **OLIGOSACCHARIDES** - POSSIBLE BIOSYNTHETIC PRECURSORS OF **ESCHERICHIA-COLI** 08 AND 09 O-ANTIGENS
SO BIOORGANICHESKAYA KHIMIYA, (1984) Vol. 10, No. 7, pp. 946-953.
AU TORGOV V I (Reprint); SHIBAEV V N; KOCHETKOV N K
AN 84:504794 SCISEARCH
- L49 ANSWER 178 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis of repeating units of **Escherichia coli** capsular polysaccharides containing D-ribose and 3-deoxy-D-manno-2-octulosonic acid (KDO)
SO Carbohydrate Research (1984), 132(2), 261-74
CODEN: CRBRAT; ISSN: 0008-6215
AU Kosma, Paul; Schulz, Gerhard; Unger, Frank M.
AN 1985:62532 HCAPLUS
DN 102:62532
- L49 ANSWER 179 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Mucin degradation by enteric bacteria: ecological aspects and implications for bacterial attachment to gut mucosa
SO Attachment Org. Gut Mucosa, [Pap. Res. Workshop] (1984), Volume 2, 51-67.
Editor(s): Boedeker, Edgar C. Publisher: CRC, Boca Raton, Fla.
CODEN: 52SOA7
AU Hoskins, Lansing C.
AN 1985:594094 HCAPLUS
DN 103:194094
- L49 ANSWER 180 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Oligosaccharide preparation - by treating starch, amylase or amylopectin (hydrolysate) with amylase obtd. from **Bacillus** e.g. **circulans** G 4,5 FERM p-6237.
PI JP 58170492 A 19831007 (198346)* 7
JP 59004119 B 19840127 (198408)
- L49 ANSWER 181 OF 207 MEDLINE on STN DUPLICATE 61
TI Appearance of monoglyceride and triglyceride in the cell envelope of **Escherichia coli** mutants defective in diglyceride kinase.

- SO Journal of biological chemistry, (1983 Jul 10) 258 (13) 8068-73.
 Journal code: 2985121R. ISSN: 0021-9258.
- AU Rotering H; Raetz C R
 AN 83238407 MEDLINE
- L49 ANSWER 182 OF 207 MEDLINE on STN DUPLICATE 62
 TI Structure of the core regions in lipopolysaccharides from Escherichia coli K12 W2252-11U-, the Ter-15 mutant, and Ter-15 (F'-lac) and Ter-15 (F+) cells.
- SO Biochimica et biophysica acta, (1983 Apr 20) 756 (3) 335-40.
 Journal code: 0217513. ISSN: 0006-3002.
- AU Ohkawa T
 AN 83153817 MEDLINE
- L49 ANSWER 183 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI Saccharides as physiologically active hypoglycemic (antidiabetic) agents; derived from **microbially-produced polysaccharides** and **oligosaccharides**
 AN 1982-03991 BIOTECHDS
 PI JP 57146713 10 Sep 1982
- L49 ANSWER 184 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
 TI Solubilisation, modification and hydrolysis of carbohydrate(s) - by treatment with aqueous acid and magnesium, calcium or lithium salt.
 PI EP 44622 A 19820127 (198205)* EN 51
 R: AT CH DE FR GB LI SE
 NO 8102358 A 19820208 (198209)
 BR 8104434 A 19820330 (198215)
 JP 57048997 A 19820320 (198217)
 ZA 8104472 A 19820705 (198238)
 EP 44622 B 19850821 (198534) EN
 R: AT CH DE FR GB LI SE
 CA 1192541 A 19850827 (198539)
 DE 3171911 G 19850926 (198540)
 SU 1318171 A 19870615 (198805)
 US 4713118 A 19871215 (198806)
 US 4787939 A 19881129 (198850)
 JP 01033113 B 19890711 (198931)
 IN BARKER, S A; SOMERS, P J
- L49 ANSWER 185 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
 TI Enzyme mixtures for production of oligosaccharides
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 AN 1981:478483 HCAPLUS
 DN 95:78483
 PATENT NO. KIND DATE APPLICATION NO. DATE
 ----- ----- ----- -----
 PI JP 56051982 A2 19810509 JP 1979-127979 19791005
- L49 ANSWER 186 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 63
 TI COMPARATIVE STUDY OF HOST CAPSULE DEPOLYMERASES ASSOCIATED WITH KLEBSIELLA BACTERIO PHAGES.
 SO Virology, (1981) Vol. 113, No. 1, pp. 363-378.
 CODEN: VIRLAX. ISSN: 0042-6822.
 AU RIEGER-HUG D [Reprint author]; STIRM S
 AN 1982:154584 BIOSIS
- L49 ANSWER 187 OF 207 LIFESCI COPYRIGHT 2005 CSA on STN
 TI Comparative Study of Host Capsule Depolymerases Associated With Klebsiella Bacteriophages.
 SO VIROLOGY., (1981) vol. 113, no. 1, pp. 363-378.
 AU Stirm, S.; Rieger-Hug, D.

AN 81:33613 LIFESCI

L49 ANSWER 188 OF 207 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
TI Comparative study of host capsule depolymerases associated with Klebsiella bacteriophages.
SO Behavioural Brain Research, (1981) Vol. 3, No. 2, pp. 363-378.
CODEN: BBREDI
AU Rieger-Hug D.; Stirm S.
AN 81201970 EMBASE

L49 ANSWER 189 OF 207 MEDLINE on STN DUPLICATE 64
TI Synthesis of 2-methyl-[2-acetamido-4-O-acetyl-6-O-benzyl-3-O-(2-butenyl)-1,2-dideoxy-alpha-D-glucopyranosyl]-[2,1-d]-2-oxazoline, a versatile intermediate for the synthesis of complex oligosaccharides of bacterial cell-wall, human milk, and blood-group substances.
SO Carbohydrate research, (1981 Mar 2) 89 (2) 279-88.
Journal code: 0043535. ISSN: 0008-6215.
AU Durette P L; Meitzner E P
AN 81210068 MEDLINE

L49 ANSWER 190 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 65
TI MUCIN DEGRADATION IN HUMAN COLON ECOSYSTEMS EVIDENCE FOR THE EXISTENCE AND ROLE OF BACTERIAL SUB POPULATIONS PRODUCING GLYCOSIDASES AS EXTRACELLULAR ENZYMES.
SO Journal of Clinical Investigation, (1981) Vol. 67, No. 1, pp. 163-172.
CODEN: JCINAO. ISSN: 0021-9738.
AU HOSKINS L C [Reprint author]; BOULDING E T
AN 1981:232852 BIOSIS

L49 ANSWER 191 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Galactose-containing oligosaccharide A preparation - by cultivating suitable microorganism of genus *Bacillus*.
PI JP 55108887 A 19800821 (198040)*
JP 56047190 B 19811107 (198149)

L49 ANSWER 192 OF 207 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
TI Bifido bacterium multiplication-promoting agent - containing oligosaccharide prepared by treating lactose with beta-glucosidase produced by *Aspergillus oryzae*.

PI JP 55104885 A 19800811 (198039)*
GB 2080330 A 19820203 (198205)
DE 3027731 A 19820204 (198206)
FR 2488137 A 19820212 (198211)
NL 8004210 A 19820216 (198211)
BR 8004937 A 19820406 (198216)
DE 3027731 C 19820722 (198230)
JP 58020266 B 19830422 (198320)
US 4435389 A 19840306 (198412)
CA 1165706 A 19840417 (198420)
GB 2080330 B 19841003 (198440)
JP 35041449 B 19850305 (198515)
CH 649002 A 19850430 (198521)
KR 8600065 A 19860206 (198640)
NL 181115 B 19870116 (198706)
JP 63018457 B 19880419 (198819)
IT 1141607 B 19861001 (198826)

L49 ANSWER 193 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis of α -L-Rhap-(1 \rightarrow 3)-L-Rha and α -L-Rhap-(1 \rightarrow 3)- α -L-Rhap-(1 \rightarrow 3)-L-Rha building stones of bacterial polysaccharides

- SO Symp. Pap. - IUPAC Int. Symp. Chem. Nat. Prod., 11th (1978), Volume 3,
73-6
CODEN: 41RTAX
- AU Pozsgay, Vince; Nanasi, Pal
AN 1980:42276 HCAPLUS
DN 92:42276
- L49 ANSWER 194 OF 207 MEDLINE on STN DUPLICATE 66
TI Relation of turnover of membrane phospholipids to synthesis of
membrane-derived **oligosaccharides** of *Escherichia coli*.
SO Journal of biological chemistry, (1977 Jun 25) 252 (12) 4250-5.
Journal code: 2985121R. ISSN: 0021-9258.
AU Schulman H; Kennedy E P
AN 77187939 MEDLINE
- L49 ANSWER 195 OF 207 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
STN
TI ANTIGEN DEGRADATION IN HUMAN COLON ECOSYSTEMS HOSTS ABO BLOOD TYPE
INFLUENCES ENTERIC BACTERIAL DEGRADATION OF A CELL SURFACE ANTIGEN ON
ESCHERICHIA-COLI O-86.
SO Gastroenterology, (1977) Vol. 73, No. 1, pp. 37-41.
CODEN: GASTAB. ISSN: 0016-5085.
AU CROMWELL C L [Reprint author]; HOSKINS L C
AN 1978:140610 BIOSIS
- L49 ANSWER 196 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Oligosaccharides
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
IN Okada, Shigetaka; Tsuyama, Naoto; Mitsuhashi, Masakazu; Ogasawara, Junsuke
AN 1974:131677 HCAPLUS
DN 80:131677
PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 48098093 A2 19731213 JP 1972-31619 19720331
JP 56004238 B4 19810129
- L49 ANSWER 197 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Interference with **bacterial** cell wall synthesis by
oligosaccharide antibiotics
SO Bollettino - Societa Italiana di Biologia Sperimentale (1970), 46(5),
233-7
CODEN: BSIBAC; ISSN: 0037-8771
AU Bertazzoni, E.; Berti, Tito
AN 1970:506481 HCAPLUS
DN 73:106481
- L49 ANSWER 198 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI In vitro synthesis of oligosaccharides by three "fruit rot" fungi
SO Proceedings - Indian Academy of Sciences, Section B (1970), 71(4), 171-6
CODEN: PISBAA; ISSN: 0370-0097
AU Kapoor, I. J.; Tandon, Ram N.
AN 1970:484877 HCAPLUS
DN 73:84877
- L49 ANSWER 199 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Decomposition products of enzymic starch hydrolysis
SO Proceedings of the Annual Congress - South African Sugar Technologists'
Association (1970), 44, 94-7
CODEN: PSATAA; ISSN: 0373-045X
AU Bruijn, J.
AN 1971:553165 HCAPLUS
DN 75:153165

- L49 ANSWER 200 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Synthesis of oligosaccharides by growing culture of Leuconostoc mesenteroides. IV. Oligosaccharide formation in the presence of various types of glucobioses as acceptors**
SO Agricultural and Biological Chemistry (1969), 33(9), 1295-300
CODEN: ABCHA6; ISSN: 0002-1369
AU Yamauchi, Fumio; Ohwada, Yhiji
AN 1969:488712 HCAPLUS
DN 71:88712
- L49 ANSWER 201 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Quantitative chromatography of homologous glucose oligomers and other saccharides using polyacrylamide gel
SO Journal of Chromatography (1969), 42(4), 476-84
CODEN: JOCRAM; ISSN: 0021-9673
AU John, Michael; Trenel, Goetz; Dellweg, Hanswerner
AN 1969:488266 HCAPLUS
DN 71:88266
- L49 ANSWER 202 OF 207 MEDLINE on STN DUPLICATE 67
TI Novel heparin degradation products. Isolation and characterization of novel disaccharides and **oligosaccharides produced** from heparin by **bacterial** degradation.
SO Biochemical journal, (1968 Jul) 108 (4) 647-54.
Journal code: 2984726R. ISSN: 0264-6021.
AU Dietrich C P
AN 68361894 MEDLINE
- L49 ANSWER 203 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Fundamental processes in the synthesis of oligo- and polysaccharides by **microorganisms**. I. **Synthesis of oligosaccharides**
II. **Synthesis of polysaccharides**
SO Mikrobiol. Zh., Akad. Nauk Ukr. RSR (1961), 23(No. 4;No. 5), 58-62;65-70
AU Novikova, S. I.
AN 1962:68895 HCAPLUS
DN 56:68895
OREF 56:13329h-i
- L49 ANSWER 204 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Synthesis of oligosaccharides by microbial enzymes**
SO (1960) 44 pp. Avail.: Univ. Microfilms (Ann Arbor, Mich.), Order No. 60-4506
From: Dissertation Abstr. 21, 1333
AU Marsh, Jean M.
AN 1961:28400 HCAPLUS
DN 55:28400
OREF 55:5643d-e
- L49 ANSWER 205 OF 207 MEDLINE on STN DUPLICATE 68
TI Carbohydrate metabolism of **coli** group **bacteria**. IV.
Oligosaccharide synthesis from sucrose by Esch.
coli var. communior.
SO Japanese journal of medical science & biology, (1954 Feb) 7 (1) 1-13.
Journal code: 0243706. ISSN: 0021-5112.
AU MOROOKA N
AN 55022750 MEDLINE
- L49 ANSWER 206 OF 207 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Oligosaccharides synthesized** from maltose by **Escherichia coli**
SO Journal of the Chemical Society, Abstracts (1952) 209-15
CODEN: JCSAAZ; ISSN: 0590-9791
AU Barker, S. A.; Bourne, E. J.

AN 1952:54533 HCPLUS
DN 46:54533
OREF 46:9065h-i

L49 ANSWER 207 OF 207 MEDLINE on STN
TI The **oligosaccharides synthesized** by **Escherichia coli** from maltose.
SO Biochemical journal, (1951 Sep) 49 (4) lxi.
Journal code: 2984726R. ISSN: 1470-8728.
AU BARKER S A; BOURNE E J
AN 52016452 MEDLINE

=>
=> d ab 4,5,7,8,20,22,28-32,36,39,40,46,55,58,95

L49 ANSWER 4 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN
AB A review with 52 refs. is presented regarding methods developed for the production of heterologous **oligosaccharides** by recombinant bacteria. Topics discussed include the concept and methodol. of heterologous recombinant **oligosaccharide production** in **Escherichia coli**, and examples of recombinant oligosaccharides. The work presented represents the first few steps towards the production of tailored **oligosaccharides** in **E. coli**

L49 ANSWER 5 OF 207 MEDLINE on STN DUPLICATE 2
AB Rapid advances in the cloning and expression of glycosyltransferase genes, especially from bacteria, could open the way to overcoming difficulties in the mass production of oligosaccharides. The large-scale production of oligosaccharides using either glycosyltransferases isolated from engineered microorganisms or whole cells as an enzyme source could promote a new era in the field of carbohydrate synthesis.

L49 ANSWER 7 OF 207 MEDLINE on STN DUPLICATE 3

L49 ANSWER 8 OF 207 MEDLINE on STN DUPLICATE 4
AB A large-scale production system of cytidine 5' monophospho-N-acetylneuraminc acid (CMP-NeuAc) and sialyloligosaccharides was established by a whole-cell reaction through the combination of recombinant **Escherichia coli** strains and **Corynebacterium ammoniagenes**. For the production of CMP-NeuAc, two recombinant **E. coli** strains were generated that overexpressed the genes of CMP-NeuAc synthetase and CTP synthetase, respectively. **C. ammoniagenes** contributed to the formation of UTP from orotic acid. CMP-NeuAc was accumulated at 27 mM (17 g/l) after a 27-h reaction starting with orotic acid and N-acetylneuraminc acid. When **E. coli** cells that overexpressed the alpha-(2-->3)-sialyltransferase gene of **Neisseria gonorrhoeae** were put into the CMP-NeuAc production system, 3'-sialyllactose was accumulated at 52 mM (33 g/l) after an 11-h reaction starting with orotic acid, N-acetylneuraminc acid, and lactose. Almost no oligosaccharide byproducts other than 3'-sialyllactose were observed after the reaction. The production of 3'-sialyllactose at a 5-l jar fermenter scale was almost the same as that at a beaker scale, which indicated the high potential of the 3'-sialyllactose production on an industrial scale.

L49 ANSWER 20 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AB The gene (galE) encoding UDP-galactose-4-epimerase was cloned (plasmid pET15b-galE) into **Escherichia coli** BL21(DE3) from the chromosomal DNA of **E. coli** K-12. High expression of the soluble recombinant epimerase was achieved in the cell lysate. In order to evaluate the use of this enzyme in the synthesis of alpha-Gal epitopes (oligosaccharides with a terminal Gal-alpha-1,3-Gal sequence), a new radioactivity assay (alpha-1,3-galactosyltransferase coupled assay) was established to

characterize its activity in producing UDP-galactose from UDP-glucose. About 2,700 U (100 mg) enzyme with a specific activity of 27 U/mg protein could be obtained from 1 l of bacterial culture. Cultures were carried out at 37 deg, 250 rpm for 3 hr in Luria-Bertani medium. The epimerase was active in a wide pH range with an optimum at pH 7. This expression system established a viable route to the enzymatic production of alpha-Gal oligosaccharides to support xenotransplantation research. (13 ref)

L49 ANSWER 22 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AB There is an increasing market for health-promoting microbial food supplements, probiotics and health promoting non-digestible food ingredients (prebiotics). A genomic library of *Bifidobacterium adolescentis* DSM 20083 was constructed in *Escherichia coli* XL1-Blue MRF' and a gene encoding an alpha-galactosidase (EC-3.2.1.22) was isolated. The identified open reading frame showed high similarity and identity with bacterial alpha-galactosidases, which belong to Family 36 of the glycosyl hydrolases. The transformed *E. coli* was grown for 24 hr in M9 medium supplemented with 1 mg thiamine/ml, 1 mM IPTG and 50 ug ampicillin/ml. The broth was centrifuged and the supernatant was diluted 1:1 with water. For purification of the enzyme from the medium, a single chromatography step on Q-Sepharose was sufficient. The yield of the recombinant enzyme was 100-fold higher than from *B. adolescentis* itself. As well as hydrolytic activity, the alpha-galactosidase had transglycosylation activity and could be used for production of alpha-galacto-oligosaccharides. (18 ref)

L49 ANSWER 28 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 12
AB Structure-comparisons of glycosyltransferases is hampered by the absence of extended sequence conservations. Only short regions of limited homology have been reported for groups of closely-related transferases such as the beta-galactosyltransferase family, the sialyltransferases, and the beta-polysaccharide synthases: a group of glycosyltransferases involved in the synthesis of linear polysaccharides that consist of beta-linked saccharides. Examples of such enzymes are chitin synthase, cellulose synthase, hyaluronic acid synthase, and the bacterial NodC protein which **synthesizes** chitin **oligosaccharides**. In this paper we summarize the known functional aspects of this group of transferases, and possible links with structural aspects. We have found that all members contain six short sequences which are conserved throughout this family. Site-directed mutagenesis studies reported in literature have shown that the conserved residues in these conserved beta-polysaccharide synthase regions are important, or even essential for enzyme activity. Since a detailed study of these mutants with regard to nucleotide-sugar binding or glycosyl acceptor binding has not been reported, the data generated by these studies do not provide information about the precise roles of the conserved beta-polysaccharide synthase regions in substrate-binding and catalysis. However, we report that a novel motif, conserved in all members of this beta-polysaccharide synthase family, is homologous to known nucleotide-binding motifs in nucleoside-triphosphate-binding proteins. In addition we present a sequence analysis that indicates putative functions for the conserved regions in the beta-polysaccharide synthase family in substrate-specificity, catalysis, and product chain-length control.

L49 ANSWER 29 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 13
AB Rhizobial **bacteria** **synthesize** lipo-chitin **oligosaccharide** signal molecules (Nod factors) that are essential for the formation of symbiotic organs on the roots of host plants, a process known as nodulation. Biosynthesis of the chitin oligosaccharide moiety in Nod factors is carried out by the rhizobial N-acetylglucosaminyltransferase NodC. The initial acceptor or primer used

for the synthesis of chitin oligosaccharides in vivo is unknown. To investigate the acceptor specificity of NodC, we have synthesized derivatives of N-acetylglucosamine (GlcNAc) with different aglycones and tested whether they are accepters for NodC in vitro using a membrane preparation of an Escherichia coli strain expressing the Mesorhizobium loti chitin oligosaccharide synthase NodC. Analysis of reaction products using thin-layer chromatography shows that GlcNAc derivatives containing simple alkyl chains or other hydrophobic groups linked to C-1 are accepters for NodC. The enzyme appears to be specific for accepters in which the aglycone is beta-linked. GlcNAc derivatives in which the methyl group of the N-acetyl moiety of GlcNAc is replaced by an allyloxy or benzyloxy group are still used as accepters by NodC. The original methyl group at this position therefore does not appear to be essential for the interaction between NodC and GlcNAc. A NodC-dependent reaction product that is more hydrophobic than GlcNAc was detected in reaction mixtures containing 5% methanol but lacking an exogenously added acceptor. This may be due to the presence of a natural hydrophobic glycosyl acceptor for NodC in the membranes of E. coli, but the structure of this reaction product remains to be investigated. (C) 1999 Elsevier Science Ltd. All rights reserved.

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AB Chemical syntheses of inner core determinants have been performed to provide defined artificial antigens (BSA-glycoconjugates) for characterization of monoclonal antibodies directed against important epitopes residing in the inner core of **bacterial** lipopolysaccharides. Efficient block **synthesis** of Kdo oligosaccharides has been employed to prepare the allyl glycoside [5] corresponding to the Chlamydia-specific Kdo trisaccharide epitope, to be used in crystallization and NMR (transfer NOe) experiments. Human pathogenic strains of Pseudomonas aeruginosa of RNA group I contain a highly phosphorylated heptose region with a 7-O-carbamoyl L-glycero-D-mannoheptose moiety which may be exploited as immunochemical marker for pathogenic Pseudomonas species. The 7-O-carbamoyl-substituted heptoside [12] as well as the disaccharides 7-O-carbamoyl-L-gro-alpha-D-manHepp-(1--> 3)-L-gro-alpha-D-manHepp-(1--> 0-Allyl) [23] and alpha-D-GalpNAc-(1-->3)L-gro-alpha-D-manHepp-(1--> 3)-L-gro-alpha-D-manHepp-(1--> 0-Allyl) [30] were synthesized via regioselective formation of a 6',7'-O-carbonate group followed by ring opening with NH3/NH4HCO3 to give the 7-O-carbamate in high yields. Finally, glycosides of the Kdo-isosteric D-glycero-D-talo-2-octulosonic acid (Ko) occurring in Acinetobacter spp. have been prepared via intermediate orthoester formation and TMSO-triflate-catalyzed rearrangement into alpha-ketosides. Coupling with a Kdo bromide donor and deblocking afforded the disaccharide alpha-Ko-(2--> 4)-alpha-Ko-(2--> 0-Allyl) [43].

L49 ANSWER 31 OF 207 MEDLINE on STN DUPLICATE 15

AB Many human pathogens initiate disease by utilizing their microbial adhesin proteins to attach to glycoconjugates on host cell mucosal surfaces. Soluble oligosaccharides of identical or similar structure to these naturally occurring ligands can both prevent bacterial attachment as well as mediate the release of attached bacteria. Since it has not been possible to isolate large quantities of these compounds, we have developed enzyme-based technologies to synthesize several relevant human oligosaccharides. Using cloned **bacterial** glycosyltransferases, we can **synthesize** several hundred grams of these oligosaccharides at a time. The availability of these large quantities will allow these compounds to be tested as anti-adhesive pharmaceutical agents as well as lead to expanded practical applications.

L49 ANSWER 32 OF 207 MEDLINE on STN DUPLICATE 16

AB Synthesis of CMP-deaminoneuraminic acid (CMP-beta-D-Kdn) and its enzymatic transfer reaction using bacterial alpha-(2-->6)-sialyltransferase were

examined. CMP-beta-D-Kdn was prepared from methyl 4,5,7,8,9-penta-O-acetyl-3-deoxy-D-glycero-beta-D-galacto-2-nonulopyranosonate (2) in 24% overall yield. Enzymatic synthesis of Kdn oligosaccharide with CMP-beta-D-Kdn (10.2 mumol), methyl beta-D-lactosaminide (7, 8.1 mumol) and purified sialyltransferase (80 munits) afforded Kdn-alpha-(2-->6)-Gal-beta-(1-->4)-GlcNAc-beta-1-OMe in 77% yield.

- L49 ANSWER 36 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN
AB A review with 26 refs. on problems and related strategies of **oligosaccharide synthesis using microbial enzymes** with subdivision headings: general strategy and problems on **oligosaccharide synthesis**, enzymes for the **synthesis** (including **microbial glycosyltransferase**, **glycosidase**, **phosphorylase**), fashioning of the **microbial enzyme synthesized oligosaccharide** discussed on the enzyme sources, substrate specificity, side reaction, and enzyme technol. to improve oligosaccharide variety, substrate-inversion-rate and purity of oligosaccharide products.
- L49 ANSWER 39 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AB A method for expressing a glycosyltransferase in a host cell (*Escherichia coli*) consists of obtaining a host cell substantially lacking a protease that cleaves proteins between 2 consecutive positively charged amino acids, then introducing a nucleic acid, which encodes the enzyme into the cell, incubating the cells under expression conditions, or, introducing a nucleic acid which encodes a glycosyltransferase, where the DNA sequence (specified) lacks at least one occurrence of 2 adjacent codons for positively charged amino acids that are normally present in the enzyme, in to the host cell, are new. Also claimed are: a composition containing the enzyme, obtained using the method mentioned above; a recombinant nucleic acid (N1) with a sequence (specified) as mentioned above; an expression cassette, containing N1 operably linked to a promoter functional in the host cell, containing N1; and a method to transfer a monosaccharide between substrates, which involves, a reaction medium containing glycosyltransferase, a donor and acceptor substrate and a soluble divalent metal cation. The enzyme helps in vitro production of therapeutic oligosaccharides. (33pp)
- L49 ANSWER 40 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AB A gene is claimed which encodes a beta-galactoside-alpha-2,6-sialyltransferase (I) produced by *Photobacterium damsela* JT0160 (FERM BP-4900). The DNA sequence of the gene is disclosed. Also claimed are: DNA derived from the gene by addition, deletion or substitution of one or more bases; DNA encoding a signal peptide (the 1st 15 residues of the enzyme sequence); vectors containing the DNA; and production of recombinant (I) or its fragments by culture of a host cell transformed with the vector. (I) is not homologous with known animal sialyltransferases and differs from them in binding to cell membrane at its C-terminal region. Expression of modified gene lacking the portion encoding the C-terminus of (I) produces a soluble form of the enzyme. (I) catalyzes the incorporation of NeuAc in the 6-position of galactose residues of oligosaccharide chains, and can be obtained readily in high yield by **microbial culture** for use in specific **synthesis of sialylated oligosaccharides**. In an example, vector plasmid pEBST is constructed to contain the *P. damsela* (I) gene and expressed in *Escherichia coli* MV1184. Clone C2 is obtained, which produces 240 U/l (I) activity in the medium. (60pp)
- L49 ANSWER 46 OF 207 MEDLINE on STN DUPLICATE 21
AB A large-scale production system of uridine 5'-diphospho-galactose (UDP-Gal) has been established by the combination of recombinant *Escherichia coli* and *Corynebacterium ammoniagenes*. Recombinant *E. coli* that overexpress the UDP-Gal biosynthetic genes *galt*, *galK*, and *galU* were generated. *C. ammoniagenes* contribute the production of uridine

triphosphate (UTP), a substrate for UDP-Gal biosynthesis, from orotic acid, an inexpensive precursor of UTP. UDP-Gal accumulated to 72 mM (44 g/L) after a 21 h reaction starting with orotic acid and galactose. When *E. coli* cells that expressed the α 1,4-galactosyltransferase gene of *Neisseria gonorrhoeae* were coupled with this UDP-Gal production system, 372 mM (188 g/L) globotriose ($\text{Gal}\alpha\text{1-4}\text{Gal}\beta\text{1-4}\text{Glc}$), a trisaccharide portion of verotoxin receptor, was produced after a 36 h reaction starting with orotic acid, galactose, and lactose. No oligosaccharide by-products were observed in the reaction mixture. The production of globotriose was several times higher than that of UDP-Gal. The strategy of producing sugar nucleotides by combining metabolically engineered recombinant *E. coli* with a nucleoside 5'-triphosphate producing **microorganism**, and the concept of **producing oligosaccharides by coupling sugar nucleotide production systems with glycosyltransferases**, can be applied to the manufacture of other sugar nucleotides and oligosaccharides.

L49 ANSWER 55 OF 207 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation
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AB In this article, **syntheses of bacterial oligosaccharides** containing additional synthetic challenges are presented. In the first part, syntheses of L-glycero-D-manno-heptopyranosyl-containing oligosaccharides are reported. Synthesis of the heptose trisaccharide structures from the core region of lipopolysaccharides from *Salmonella* and *Haemophilus* bacteria are described together with larger fragments containing hexoses as well. In the second part, development of reactive beta-selective glucuronic acid thioglycoside donors is presented. These donors, promoted by DMTST, are used to prepare disaccharide structures corresponding to the repeating unit of the capsular polysaccharide from *Streptococcus pneumoniae* type 3 and to parts of the capsular polysaccharide of *Cryptococcus neoformans*. In the third and last part, stereoselective synthesis of alpha- and beta-D-fructofuranosides using thioglycoside donors are discussed. With participating benzoyl groups and DMTST as promoter, excellent yields of alpha-linked fructofuranosyl disaccharides are obtained. Application of the internal aglycon delivery approach, with the aglycon tethered to the beta-face of the fructofuranosyl thioglycoside donor as part of a 3-O-p-methoxybenzylidene acetal, produced stereospecifically high yields of beta-linked fructofuranosyl disaccharides, *inter alia*, structures from the *Haemophilus influenzae* type e capsular polysaccharide, after activation of the tethered intermediates with DMTST.

L49 ANSWER 58 OF 207 MEDLINE on STN DUPLICATE 27

AB Cultivation of *Escherichia coli* harbouring heterologous genes of **oligosaccharide synthesis** is presented as a new method for preparing large quantities of high-value oligosaccharides. To test the feasibility of this method, we successfully produced in high yield (up to 2.5 g/L) penta-N-acetyl-chitopentaose (1) and its deacetylated derivative tetra-N-acetyl-chitopentaose (2) by cultivating at high density cells of *E. coli* expressing nodC or nodBC genes (nodC and nodB encode for chitooligosaccharide synthase and chitooligosaccharide N-deacetylase, respectively). These two products were easily purified by charcoal adsorption and ion-exchange chromatography. One important application of compound 2 could be its utilisation as a precursor for the preparation of synthetic nodulation factors by chemical acylation.

L49 ANSWER 95 OF 207 HCPLUS COPYRIGHT 2005 ACS on STN

AB Recombinant *Escherichia coli* with a porous cell wall and containing periplasmic α -1,2-mannosyltransferase was used in the mannosylation of a series of D-mannose containing acceptors. Yields in the α -1,2-mannosylation step of the acceptor mannose moiety ranged 42-75% for D-mannose, Me D-mannoside, mannosylthreonine, and a mannosyltripeptide.

=> d ab 166

L49 ANSWER 166 OF 207 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AB Current commercial applications of polysaccharides are reviewed. Economic aspects are discussed, including current markets, market trends, industry realignment, prospects and applications. New polymers are described, including cellulosics (liquid crystal products, cellulose, cellulose acetate, drug release and cosmetic products, coating and thickening products, superabsorbents and food additives); starch products (surfactants, plastics additives and new polymers), hyaluronic acid, alginate (from *Laminaria hyperborea*), chitin, chitosan, xanthan gum (from *Xanthomonas campestris*), gellan gum, welan gum, rhamsan gum, polysaccharides from methylotrophic **bacteria** and **oligosaccharide products** (e.g. cyclodextrin). New polysaccharide applications are examined, including pharmaceutical products (vaccine development, drug delivery, antitumor products from bacteria, antithrombogenic products, anti-adhesive drugs); diagnostic products (ELISA, biosensor products, imaging agents); membranes; chromatography; two-phase systems; immobilization; extractive fermentation, sorption, metal chelators, surfactants and drag reducing agents. (167 ref)

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.19	-2.19

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217198 WO/PC

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 4151632 PY>=2001
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 1453590 PRY<=2000
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L54 ANSWER 1 OF 5 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI Novel crystal for identifying ligands that modulate glycosyltransferase
 activity comprises ligand binding pocket of retaining glycosyltransferase
 enzyme and optionally donor and/or acceptor molecule;
 recombinant protein production purification and crystallization useful
 for **bacterium** infection therapy and lipo-
oligosaccharide production
 AU WITHERS S G; WAKARCHUK W W; STRYNADKA N C J; DIECKELMANN M; LY H; PERSSON
 K
 AN 2003-01129 BIOTECHDS
 PI WO 2002048320 20 Jun 2002

L54 ANSWER 2 OF 5 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
 TI **Bacillus subtilis**-originated uridine diphosphate glucose 4-epimerase, for
 converting uridine diphosphate N-acetylglucosamine into uridine
 diphosphate N-acetylgalactosamine;
 for use in industry
 AU Hamamoto T; Noguchi T
 AN 2001-11846 BIOTECHDS
 PI WO 2001038555 31 May 2001

L54 ANSWER 3 OF 5 HCPLUS COPYRIGHT 2005 ACS on STN
 TI Codon usage modified α 2,3-sialyltransferase gene for recombinant
 expression and complex sialic acid-containing carbohydrates production
 SO PCT Int. Appl., 46 pp.
 CODEN: PIXXD2
 IN Endo, Tetsuo; Koizumi, Satoshi
 AN 2001:763176 HCPLUS
 DN 135:315321

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001077314	A1	20011018	WO 2001-JP3110	20010411 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

L54 ANSWER 4 OF 5 HCPLUS COPYRIGHT 2005 ACS on STN

TI Expression of Bacteroides α -1,2-fucosyltransferase in E. coli to produce fucose-containing carbohydrate complex
 SO PCT Int. Appl., 56 pp.
 CODEN: PIXXD2
 IN Endo, Tetsuo; Koizumi, Satoshi
 AN 2001:763175 HCAPLUS
 DN 135:328119
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI WO 2001077313 A1 20011018 WO 2001-JP3109 20010411 <--
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 EP 1275714 A1 20030115 EP 2001-919886 20010411 <--
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 US 2004058418 A1 20040325 US 2003-257332 20030306 <--

L54 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
 TI Galactomannan Oligosaccharide and procedure for their production as well
 as their use
 SO Ger. Offen., 12 pp.
 CODEN: GWXXBX
 IN Klingeberg, Michael; Kunz, Markwart; Ludwig, Eva; Munir, Mohammad; Rittig,
 Frank; Vogel, Manfred
 AN 2001:449805 HCAPLUS
 DN 135:45276
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI DE 19961182 A1 20010621 DE 1999-19961182 19991218 <--
 CA 2394640 AA 20010621 CA 2000-2394640 20001212 <--
 WO 2001044489 A2 20010621 WO 2000-EP12574 20001212 <--
 WO 2001044489 A3 20020214
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 PT, SE, TR
 EP 1303632 A2 20030423 EP 2000-991171 20001212 <--
 EP 1303632 B1 20041006
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, FI, CY, TR
 JP 2003516757 T2 20030520 JP 2001-545566 20001212 <--
 AT 278799 E 20041015 AT 2000-991171 20001212 <--
 US 2003162300 A1 20030828 US 2002-168044 20021219 <--

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